Inventor: Arthur B. RAITANO
Application No.: Currently unknown

Docket No.: 511582002800

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Figure 1

85P1B3 SSH sequence and GenBank homology to OIP5

GATCAGAGGACACATGGGACTCTGCATCTTAATTCCTAAATTTACAGTCAAAGACATTTTCAG AGATAAGTATTATGAATTCAATAAGAATCTAAAGTAAGTTCTTAAGGCAAATAGCTATAAAA GAGAAGAATCCTTAGTCTCTCATCTTCTAAAAACAGCTTCACAAATAATTTGGAAAATCAGCC TAAAGGTAAATAGAAACTGCATTTCCCCTCCATTCTTGAAGCCAATCTTTTTCAAGAAATGAC TAAGCAGCACCTGTTGTTGAAGACAGCAATAAAGCCTGAACCTGACACTCAAGCTTTGGTACA GGATC

gb|AF025441.1|AF025441 Homo sapiens Opa-interacting protein... 632 e-179 gb|AF158642.1|AF158642 Homo sapiens metalloproteinase-disin... 42 0.12 gb|AC005075.2|AC005075 Homo sapiens clone RG219E16, complet... 42 0.12 emb|AL096773.6|HS1000E10 Human DNA sequence from clone 1000... 40 0.48

>gb|AF025441.1|AF025441 Homo sapiens Opa-interacting protein OIP5 mRNA, partial cds Length = 1197

Score = 632 bits (319), Expect = e-179 Identities = 319/319 (100%) Strand = Plus / Minus

gatcagaggacacatgggactctgcatcttaattcctaaatttacagtcaaagacatttt 60 Query: 1 Sbjct: 1013 gatcagaggacacatgggactctgcatcttaattcctaaatttacagtcaaagacatttt 954 Query: 61 Sbjct: 953 taaaagagaagaatccttagtctctcatcttctaaaaacagcttcacaaataatttggaa 180 Query: 121 taaaagagaagaatccttagtctctcatcttctaaaaaacagcttcacaaataatttggaa 834 Sbjct: 893 aatcagcctaaaggtaaatagaaactgcatttcccctccattcttgaagccaatcttttt 240 Query: 181 aatcagcctaaaggtaaatagaaactgcatttcccctccattcttgaagccaatctttt 774 Sbjct: 833 caagaaatgactaagcagcacctgttgttgaagacagcaataaagcctgaacctgacact 300 Query: 241 caagaaatgactaagcagcacctgttgttgaagacagcaataaagcctgaacctgacact 714 caagctttggtacaggatc 319 Query: 301 1111111111111111111

caagctttggtacaggatc 695

Sbict: 713

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Figure 2

CDNA	Seguence	and	ORF	of	85P1B3/OIP5	clone	A

GGC	ጥርር	9 GGG	AAG	እጥG	18 G CG	CCT	CAG	27 CCG	ርጥር	CGG	36 ጥልግ		ጥሮል	45 CGT		GCA	
													-				
				M	A	A	Q	P	L	R		R	S	R	С	A	Т
CCG	ccc	63 CGG	GGG	GAC	72 TTT	TGT	GGT	81 GGC	ACT	GAG	90 AGG	GCG	ATT	99 GAC	CAA	GCT	10 TC
P	P	R	G	D	F	C	G	G	T	 E	R	 A	I	D	Q	<u>-</u>	 S
	100	117	maa	.	126		G 3 M	135		000	144		666	153		000	16
					GAG												
F	T	Т	s	M	E	W	D		Q							P	
GGC	ccc	171 GCA	GGG	CTG	180 GGG	GCT	GAG	189 GAG		GCC		GGC		207 CAG		CCG	21 TC
-	P	Α	G	L	G	Α	 E	E	P	A	 А	G	P	Q	L	 P	s
maa	ama	225	9 0m	a.a	234	maa	aam.	243	mma	~3.0	252	001	~.~	261		~~~	27
					AGG												
W	ىد	Q	P	Е		С	Α		F	Q	C	A	Q	C	Н	A	V
CTC	GCC	279 GAC	TCĢ	GTG	288 CAC	CTC	GCC	297 TGG	GAC	CTG	306 TCG	CGG	TCC	315 CTC	GGG	GCC	32 GT
L	A	D	s	v	н	L	A	W	D	L	s	R	s	L	G	A	V
CEC	mmc.	333	202	C BBB	342 ACA	አ አ ጠ	220	351		ann C	360		CCC	369		C C C C C C C C C C C C C C C C C C C	37
V	F	S			T												
ATT	GAA	387 GGT		CTC	396 AAA		AGT			AAC			TTC	423 TGT		TCT	43 TG
I	E	G	s	L	ĸ	G	s	T	Y	N	L	L	F	С	G	s	C
GGG	ATT	441 CCC	GTT	GGT	450 TTC		CTG			ACC	468 CAT		GCC	477 CTG		GCC	48 TT
 G		 P			 F												
		495			504			513			522			531			54
AGA	GGT	CAC	TTC	TGC	CTT	TCC	AGT	GAC	AAA	ATG	GTG	TGC	TAT	CTC	TTA	AAA	AC
R	G	H	F	С	L	S	S	D	K	M	V	С	Y	L	L	K	T
AAA	GCC	549 ATA	GTA	AAT	558 GCA	TCA	GAG		GAT		576 CAA		GTT	585 CCT			59 GA
 K	 A			 N	 A	 S	 E	 м			_ _		v	 P	 L	 s	
		603			612			621			630			639			64
AAG	ATT	GCA	GAG		AAA 												
K	I	A	E	L	K	E	K	I	٧	L	Т	Ħ	N	R	L	K	S

Title: Title: NUCLEIC ACID AND CORRESPONDING Inventor: Arthur B. RAITANO

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СТА	ATG	AAG	ATT	CTG	AGT	GAA	GTG	ACT	CCT	GAC	CAG	TCC	AAG	CCA	GAA	AAC	702 TGA
	 M		 I	L	s	 Е	v	T	P	D	Q	S	K	P	E	N	*
TCC	TGT	711 ACC	AAA	GCT	TGA	GTG	TCA	729 GGT	TCA	GGC	TTT	TTA	GCT	GTC	TTC	AAC	756 AAC
A.C.C.	ጥርረር	765 TGC	TTA	GTC	774 ATT	TCT	TGA	783 AAA	AGA	TTG	792 GCT	TCA	AGA	801 ATG	GAG	GGG	810 AAA
ጥርረር	ልርጥ	819 TTC		ጥጥA	828 CCT	TTA	GGC	837 TGA	ттт	TCC	846 AAA	TTA	TTT	855 GTG	AAG	CTG	864 TTT
тта	GAA	873 GAT	GAG	AGA	882 CTA	AGG	ATT	891 CTT	CTC	TTT	900 TAT	AGC		909	CCT		918 GAA
	» Cm	927	GAT	መረጥ	936 ጥልጥ	πСΆ	Διντ	945 CAT	ААТ	ACT	954 TAT	CTC	TGA	AAA	TGT	CTT	TGA
CTG	maa	981		CAA	990 ጥጥል	ΔGA	TGC	999 AGA	GTC	CCA	1008 TGT	GTC	CTC	1017 TGA	TCT	AAA	1026 GTT
GC A	ጥርር	1035 ጥጥር		TGA	1044 AAA	TAG	AGT	1053 TGG	GCT	TAA	1062 TGT	TGA	CTT	1071 CTA	TTA	CTC	1080 CTG
רמת	GGA	1089	•	GTT	1098 ATG	AAT	ACT	1107 AAT	ACA	TCA	1116 . CTT	TTT	AAC	1125 TTC	TGT	AAA	1134 ATA
CAG	አጥር	1143	ያ ል ውጥል	ттс	1152	' AGG	TAA	1161 TGT	TTA	ATA	1170 AAT	TGC	CTG	1179 AAT	' AAT	AAA	1188 AAA
		1197	7	AAA	1206 AAA	AAA	. AAA	1215 AAA	AAZ	AAA	1224 AAA	L AAA		1233	}		1242 AAA
			 L A AAA	AAA	1260)					. -	- -	· -				

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Figure 3

85P1B3/OIP5 protein sequence.

1 MAAQPLRHRS RCATPPRGDF CGGTERAIDQ ASFTTSMEWD TQVVKGSSPL GPAGLGAEEP 61 AAGPQLPSWL QPERCAVFQC AQCHAVLADS VHLAWDLSRS LGAVVFSRVT NNVVLEAPFL
121 VGIEGSLKGS TYNLLFCGSC GIPVGFHLYS THAALAALRG HFCLSSDKMV CYLLKTKAIV
181 NASEMDIQNV PLSEKIAELK EKIVLTHNRL KSLMKILSEV TPDQSKPEN*

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Figure 4

Alignment of 85P1B3 with OIP5.

>gi|2815610|gb|AAC39561.1| (AF025441) Opa-interacting protein OIP5 [Homo sapiens] Length = 231

Score = 462 bits (1189), Expect = e-130 Identities = 229/229 (100%), Positives = 229/229 (100%)

85P1B3: 1 MAAQPLRHRSRCATPPRGDFCGGTERAIDQASFTTSMEWDTQVVKGSSPLGPAGLGAEEP 60 MAAQPLRHRSRCATPPRGDFCGGTERAIDQASFTTSMEWDTQVVKGSSPLGPAGLGAEEP 62 0IP5: 3 MAAQPLRHRSRCATPPRGDFCGGTERAIDQASFTTSMEWDTQVVKGSSPLGPAGLGAEEP 62

85P1B3: 61 AAGPQLPSWLQPERCAVFQCAQCHAVLADSVHLAWDLSRSLGAVVFSRVTNNVVLEAPFL 120

AAGPQLPSWLQPERCAVFQCAQCHAVLADSVHLAWDLSRSLGAVVFSRVTNNVVLEAPFL AAGPQLPSWLQPERCAVFQCAQCHAVLADSVHLAWDLSRSLGAVVFSRVTNNVVLEAPFL 122 OIP5: 63

85P1B3:121 VGIEGSLKGSTYNLLFCGSCGIPVGFHLYSTHAALAALRGHFCLSSDKMVCYLLKTKAIV 180 VGIEGSLKGSTYNLLFCGSCGIPVGFHLYSTHAALAALRGHFCLSSDKMVCYLLKTKAIV OIP5: 123 VGIEGSLKGSTYNLLFCGSCGIPVGFHLYSTHAALAALRGHFCLSSDKMVCYLLKTKAIV 182

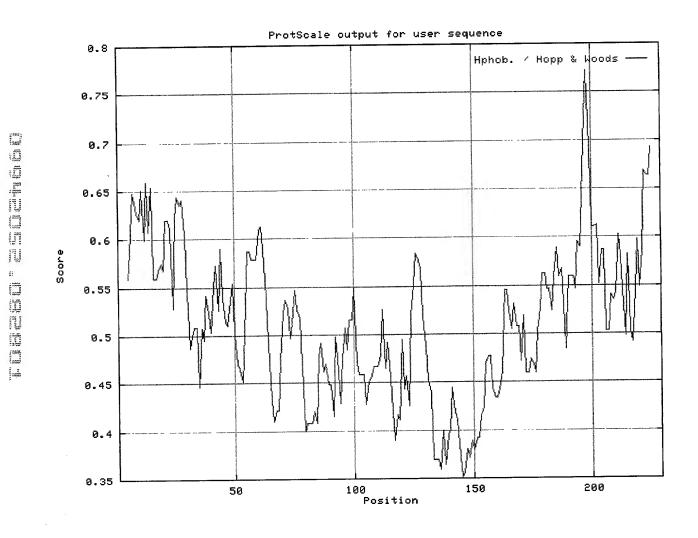
85P1B3:181 NASEMDIQNVPLSEKIAELKEKIVLTHNRLKSLMKILSEVTPDQSKPEN 229 NASEMDIQNVPLSEKIAELKEKIVLTHNRLKSLMKILSEVTPDQSKPEN
OIP5: 183 NASEMDIQNVPLSEKIAELKEKIVLTHNRLKSLMKILSEVTPDQSKPEN 231

Inventor: Arthur B. RAITANO Application No.: Currently unknown Docket No.: 511582002800

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Figure 5: 85P1B3 Hydrophilicity profile

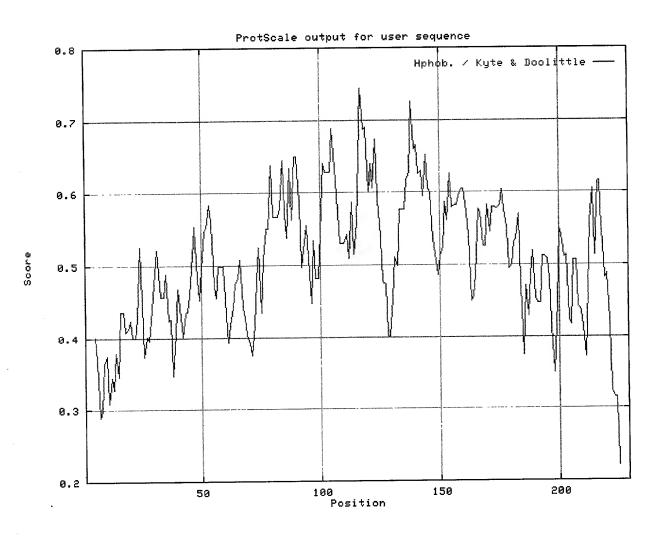
(Hopp T.P., Woods K.R., 1981. Proc. Natl. Acad. Sci. U.S.A. 78:3824-3828)



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Figure 6: 85P1B3 Hydropathicity Profile (Kyte J., Doolittle R.F., 1982. J. Mol. Biol. 157:105-132)

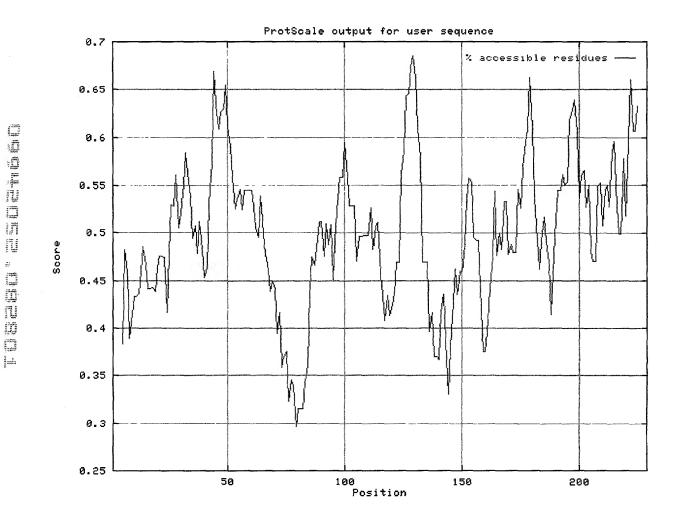


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Figure 7: 85P1B3 % Accessible Residues Profile (Janin J., 1979. Nature 277:491-492)



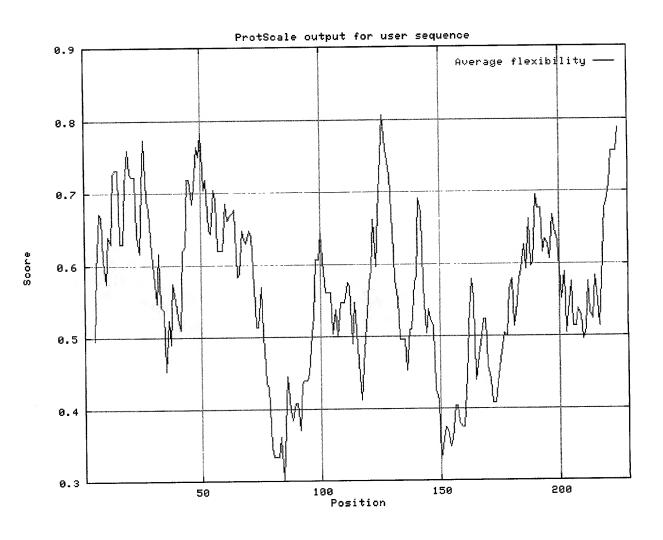
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Figure 8: 85P1B3 Average Flexibility Profile

(Bhaskaran R., Ponnuswamy P.K., 1988. Int. J. Pept. Protein Res. 32:242-255)

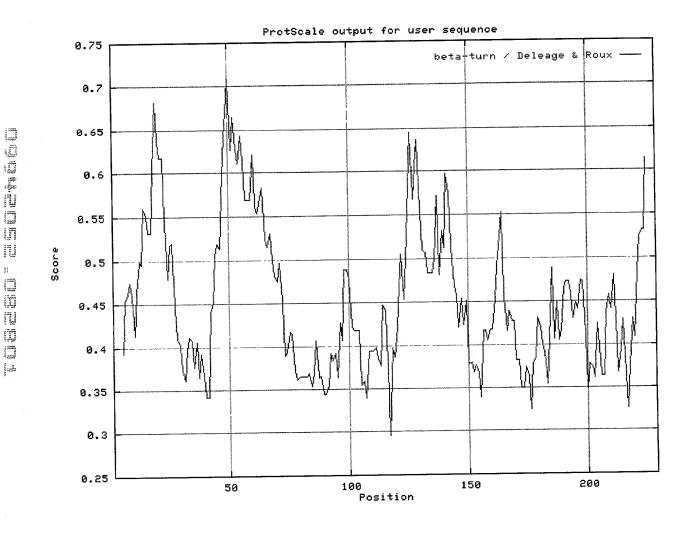


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Figure 9: 85P1B3 Beta-turn Profile

(Deleage, G., Roux B. 1987. Protein Engineering 1:289-294)

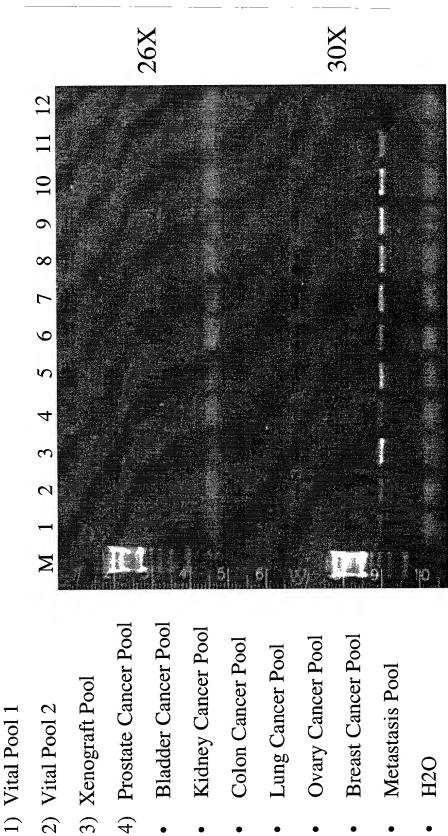


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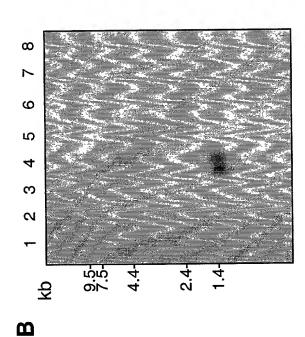


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Figure 11 Expression of 85P1B3 in Normal Human Tissues

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Spleen
 Thymus
 Prostate

4. Testis5. Ovary6. Small Intestine7. Colon8. Leukocytes

 ∞ ဖ S 4 က S 9.5 -7.5

Heart
 Brain
 Placenta
 Lung
 Liver
 Skeletal Muscle
 Kidney
 Pancreas

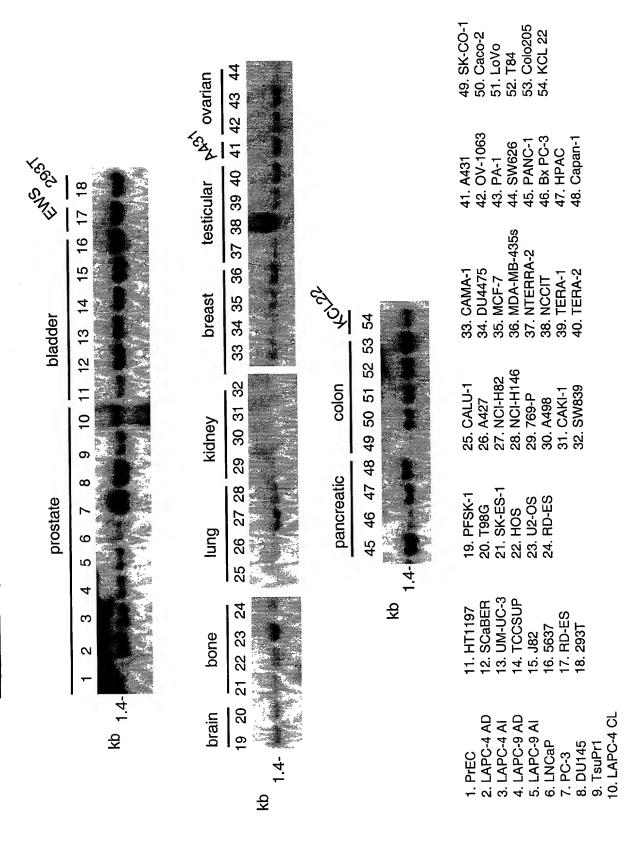
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Figure 13 Expression of 85P1B3 in Patient Cancer Specimens and Cancer

Cancer cell lines are: (from left to right)

HeLa (cervical carcinoma)
Daudi (Burkitt's lymphoma)
K562 (CML)
HL-60 (PML)
G361 (melanoma)
A549 (lung carcinoma)
MOLT-4 (lymphoblastic leuk.)

SW480 (colorectal carcinoma) Raji (Burkitt's lymphoma)

Dreast

N

Stomach

Stomach

T

Cancer cell lines

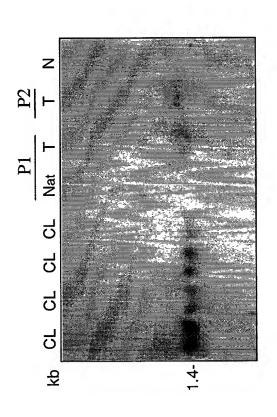
T = tumor RNA N = normal adjacent tissue RNA

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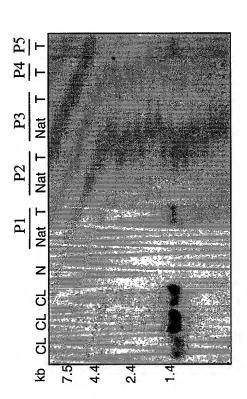
Figure 14 Expression of 85P1B3 in Colon Cancer Patient Specimens

P1 – Stage III, T2N1MX P2 – Stage III, T3N1MX



Cell Lines (CL) - Colo 205, LoVo, T84, Caco-2 N = Normal Colon Nat = Normal Adjacent tissue T = Tumor

Figure 15 Expression of 85P1B3 in Bladder Cancer Patient Specimens



P1 - Transitional, grade 2 P2 - Transitional, grade 3/2

P3 - Transitional

P4 - Polypoid cystitis P5 - Papillary, grade 3

= cell lines listed in order: UM-UC-3, J82, SCABER = Patient SDO

= Normal Bladder

Nat = Normal adjacent tumor T = Tumor

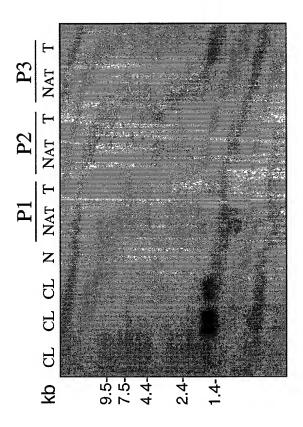
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Figure 16 Expression of 85P1B3 in Lung Cancer Patient Specimens

P1 - Squamous, stage IB P2 - Squamous, stage IIB P3 - Squamous, stage IIIA

A427, NCI-H82, NCI-H146 P = Patient N = Normal Lung NAT = Normal adjacent tissue T = Tumor = cell lines (listed in order): \mathcal{C}

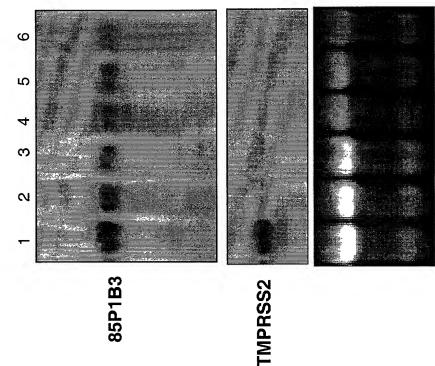


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Figure 17 Expression of 85P1B3 in Prostate Cancer Xenografts Following Castration

- Mouse #2 - Mouse #3 LAPC-9AD Day 0 – Mouse #1 LAPC-9AD Day 7 – Mouse #2 LAPC-9AD Day 7 – Mouse #3

APC-9AD Day 15 – Mouse #4 APC-9AD Day 15 – Mouse #5 APC-9AD Day 21 -- Mouse #6



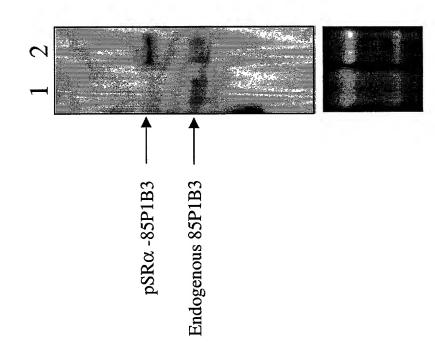
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Figure 18 Expression of 85P1B3 in PC3 Cells Following Retroviral-Mediated Gene Delivery

LAPC-9AIPC3-85P1B3



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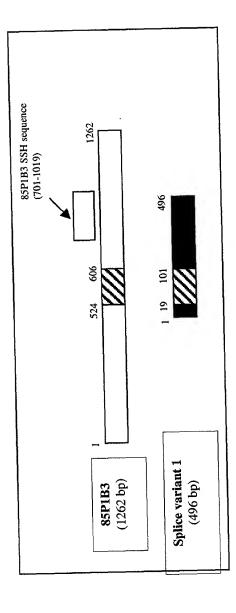


Figure 19.

Inventor: Arthur B. RAITANO Application No.: Currently unknown Docket No.: 511582002800 **Sheet 21 of 22** EB1456-1665 Anti-His pAb <u>*</u> 33. ဇ္တ 4 131 # 85P1B3 (no) Edlagg-Legz Anti-85P1B3 pAb $\mathbf{\omega}$ 35. 44 ₩ 96 131 002:1 Anti-85P1B3 pAb Figure 20 44-**-** 96 8 131 GST-85P1B3 -

Title: Title: Title: NUCLEIC ACID AND CORRESPONDING

